بِسمِ ٱللهِ ٱلرَّحمَٰنِ ٱلرَّحِيمِ

قَالُوا سُبحَانَكَ
لَا عِلمَ لَنَآ إِلَّا مَا عَلَّمتَنا إِنَّكَ
أَنتَ ٱلعَلِيمُ ٱلحَكِيمُ

صدق الله العظيم

(سورة البقرة - الآية ٣٢)

ELECTROMYOGRAPHIC EVALUATION OF MUSCLE RELAXANTS IN REDUCING POSTOPERATIVE MUSCLE SPASM AFTER SURGICAL REMOVAL OF IMPACTED MANDIBULAR THIRD MOLAR

Thesis

Submitted to the Faculty of Oral and Dental Medicine, Cairo University in partial fulfillment of the requirements of the master degree in oral and maxillofacial surgery

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Dedication

To my Loving Father

To Soul of my Mother

To my Sister and My Brother

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INTRODUCTION

Surgical extraction of third molars may be considered as one of the routine aspects of oral surgery. The involved trauma to soft and bony tissues make the Patients complain from the pain, swelling, and trismus associated with the inflammatory response following third molar surgical extractions.[1]

The main reason why there are few reports in these minor complications may be because of their reversible nature and lack of postoperative treatment. [2]

Wound healing involves an inflammatory stage which begins the moment tissue injury occurs and, in the absence of factors that prolong inflammation, lasts 3 to 5 days. The early vascular responses to injury begin with an Initial transient vasoconstriction which is soon followed by vasodilatation. Vasodilatation is caused by the actions of histamine, prostaglandins, and other vasodilator substances. Dilation causes intercellular gaps, which allows egress of plasma and emigration of leukocytes. Corresponding clinical manifestations include redness, heat, pain, swelling and trismus. [3]

Trismus is the result of inflammation involving the muscles of mastication. Inflammatory response to the surgical procedure is sufficiently widespread to involve several muscles of mastication. The most frequent muscles that may be affected are masseter and temporalis muscles. [3]

One of the most diagnostic tools for examination of the degree of tonicity of muscles is the electromyography (EMG) which involves testing the electrical activity of muscles. With the new modalities and methods of using EMG, it can be used for proper diagnosis of muscle trismus and fatigue.

Muscle contraction occurs physiologically by the nerve impulse being transmitted across the myoneural junction, the muscle contracts and electrical impulse is given off which can be recorded by EMG.